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ABSTRACT

The Louisiana high stakes testing program has raised questions about equity issues. Students from lower socioeconomic groups are less likely to have access to quality penetration tools, and, like minority students, are less likely to have knowledge and skills of their more affluent peers. Students in special education have needs that place them at a higher risk of school and work failure, and the high stakes environment conflicts with many of the practical realities of regular and special education. This study examined the effects of poverty, race, and special education status on School Performance Scores (SPS) in Louisiana. Data from 1,054 Louisiana public schools for the year 2000 were collected from the Louisiana Department of Education Web site, and the independent variables recoded into discrete groups of low, medium, and high for three variables, numbers of students classified as living in poverty, belonging to a minority, or classified as needing special education. The data were analyzed using a three-way analysis of variance. Results show a statistically significant three-way interaction with the mean of the low group (m=103.27, standard deviation=11.24), significantly higher than that of the high group (m=56.88, sd=14.10). However, more research is suggested in order to ascertain the precise relationship between the variables. (Contains 3 tables and 16 references.) (Author/SLD)

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The Effects of Poverty, Ethnicity, and Special Education Status on Louisiana School Performance Scores

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Abstract

The Louisiana high-stakes testing program has raised questions about equity issues. Students from lower socioeconomic groups are less likely to have access to quality preparation tools, and, like minority students, are less likely to have the same set of knowledge and skills of their more affluent peers (Kohn, 2000; Miller, 2001). Students in special education have special needs which place them at a higher risk of school and work failure (Donlevy, 2000), and the high-stakes environment conflicts with many of the practical realities of regular and special education (Donlevy, 2001). The purpose of this study was to examine the effects of poverty, race, and special education status on School Performance Scores (SPS) in Louisiana. Data from 1054 Louisiana public schools in the year 2000 were collected from the Louisiana Department of Education website, and the independent variables recoded into discrete groups of low, medium, and high for three variables, numbers of students classified as living in poverty, belonging to a minority, or classified as needing special education. The data were analyzed using a three-way ANOVA. Results showed a statistically significant three-way interaction with the mean of the low group (m = 103.27, SD = 11.24) significantly higher than that of the high group (m = 56.88, SD = 14.10), $F(df\ 8) = 3.48$, $p < .01$ (Observed power was calculated at .982). However, because $\eta^2 = .026$, more research is suggested in order to ascertain the precise relationship between the variables.

The Effects of Poverty, Ethnicity, and Special Education Status on Louisiana School Performance Scores

School and teacher accountability has become a very powerful political issue in recent years. As a result, many states are endeavoring to establish quantitative criteria against which schools can be evaluated. Louisiana has developed the School Performance Score, a mix of criteria-based and norm-based testing, together with student attendance and drop-out rates. Schools are encouraged to improve their scores each year, and incentives are given to high performing schools. Those institutions which do not perform well enter a corrective action program.

The current high-stakes testing movement had its beginning with the 1983 publication of "A Nation at Risk" (Orfield & Wald, 2000). As a result of the findings, particularly in the areas of curriculum, teacher expectations of students, time spent in educational pursuits at school, and teacher quality (National Commission on Excellence in Education, 1983), people from across the political spectrum were drawn together in an effort to enhance education for the youth of America and to improve accountability in the public school system.

Accountability is not a dirty word; any and all professionals need to be held accountable for what they do and for the results they obtain. The problem in the educational arena is that it is very difficult to decide how to establish an accountability program. What should administrators and teachers actually be accountable for? How should educational progress be measured?

Many states have instituted a high-stakes testing regime to address this issue. In high-stakes testing, students are given a single test at different stages of their schooling, and are prevented from moving up a grade or from graduating if they fail. Through this method of assessment, politicians feel that students, teachers, and administrators can be held accountable for what is being taught in classrooms.

Is this type of testing fair? There is substantial evidence that it is not, particularly for minority groups, those in low socioeconomic groups, and those labeled as needing special education (Donlevy, 2000; Kohn, 2000).

Minority students are affected by high-stakes testing in several different ways. One way is that the tests may be biased (Kohn, 2000). In a survey of teachers in Texas, it was reported that a significant majority challenged the basic validity of the Texas Assessment of Academic Skills (TAAS), especially for minority students (Hoffman, J., Assaf, L., & Paris, S., 2001). High-stakes testing has increased the number of drop-outs among minority students (Madaus, & Clarke, 1999; Orfield & Wald, 2000) and twice as many Hispanics and Blacks fail the TAAS as do Whites. Natriello and Pallas (1998) examined the data from the statistical profiles of all public school districts in New York and found a statistically significant negative correlation between number of minority students in a school and number of Regents diplomas gained. Miller (2001) concurred with this finding, adding that Black and Hispanic students are being shortchanged due to a narrowed curriculum, higher retention rates, and added pressure or inclination to drop out early. Madaus and Clarke

(1998) stated that high-stakes testing is not an equitable way to measure progress of students who differ in race, culture, native language, or gender.

Students from poor socio-economic groups do not, as a group, perform well on high-stakes tests (Natriello & Pallas, 1998). Popham (2000) cited an example in a sixth-grade standardized achievement test whereby students need to know that celery does not have seeds, but that peaches, limes, and pumpkins do. He pointed out that students whose parents are on food-stamps will be disadvantaged in comparison to students who regularly eat or handle such items. Kohn (2000) added that poorer schools cannot afford the better test preparation materials, and if they are able to purchase good materials, it is often at the expense of books and other important educational materials. Poorer schools also attract more uncertified teachers (Hilliard, 2000), and are more likely to teach to the test (Gutloff, 1999).

The third group of students who do not perform well in high-stakes testing are those who are categorized as needing special education. Such students already face challenges in attaining educational standards (McDermott & McDermott, 2002), and many are attending schools with "inadequate funding, limited resources, and uncertified staff" (Donlevy, 2000, p. 334). Furthermore, the goals and objectives set for students with individualized education plans (IEPS) include more than typical academic problems, and they encompass social, emotional, and behavioral components specific to each individual student. Donlevy (2001) pointed out that to produce results with these students, several key characteristics must be found within the student-teacher

relationship. These key characteristics include trust, cooperation, competence, and flexibility. Unfortunately, the prevailing high-stakes environment "conflicts with many of the practical realities of regular and special education" (Donlevey, 2001, p. 8). Those who conduct high-stakes testing often require that students with disabilities take part in assessments that were, for the most part, designed for students who do not receive special education services (Thurlow & Johnson, 2000).

There are seven hypotheses in this study:

1. There will be no significant difference in SPS scores between schools with high, medium, and low numbers of students receiving free or reduced lunches.

2. There will be no significant difference in SPS scores between schools with high, medium, and low numbers of minority students.

3. There will be no significant difference in SPS scores between schools with high, medium, and low numbers of students classified as being special education students.

4. There will be no significant interaction between schools with high, medium, and low numbers of students receiving free or reduced lunches and schools with high, medium, and low numbers of minority students.

5. There will be no significant interaction between schools with high, medium, and low numbers of students classified as being special education students and schools with high, medium, and low numbers of minority students.

6. There will be no significant interaction between schools with high, medium, and low numbers of students receiving free or reduced lunches and schools with high, medium, and low numbers of students classified as being special education students.

7. There will be no significant interaction between schools with high, medium, and low numbers of students receiving free or reduced lunches, schools with high, medium, and low numbers of students classified as being special education students, and schools with high, medium, and low numbers of minority students.

Method

Participants

The sample consisted of 1054 Louisiana public schools, both elementary (77.4%), and middle (22.6%). The range in School Performance Scores (SPS) for these schools in the years 1999-2000 was 13.30-158.90, with a mean of 78.05 (see Table 1). Students receiving free or reduced lunches made up an average of 67.15% of the total school population; minority students, 53.99%; and students classified as special education, 13.61%.

Apparatus

The Louisiana Department of Education publishes annually the State-wide results from the high stakes testing program. The results of the Louisiana Educational Achievement Test (LEAP 21), the Iowa Test of Educational Development (Iowa), student attendance scores, and the dropout rate are

used to calculate the School Performance score. Individual school scores from 2000 were used as the dependent variable in this investigation.

Data for the three independent variables (students receiving free or reduced lunches, minority students, and students designated as special education) also were obtained from the same source.

Procedure

Data were obtained from the Louisiana Department of Education website.

Data Analysis

Data were first prepared for analysis by importing the information into the SPSS10.0 program, isolating the results from the year 2000, and recoding the three independent variables into three discrete variables, 1 (low numbers of students), 2 (medium numbers of students), and 3 (high numbers of students). These three groups were based on a 33rd and 66th percentile split.

Data then were analyzed using SPSS 10.0. Descriptives were calculated first, followed by a three-way analysis of variance (ANOVA) to determine if there were any significant relationships. Eta square and power also were calculated.

Results

Three-way ANOVA results shown in Table 2 revealed a three-way interaction between free and reduced lunches, minority, and special education students (N=1054). The mean of the low group (m = 103.27, SD = 11.24) was significantly higher than that of the high group (m = 56.88, SD =

14.10), $F(8) = 3.48$, $p < .01$, $\eta^2 = .026$. Observed power was calculated at .982.

Cell means, standard deviations, and sample sizes are given in Table 3.

Discussion

The results of this study are somewhat inconclusive. Statistical significance was obtained for the three-way interaction between free or reduced lunch, minority students, and special education students, as the level of poverty, numbers of minority and special education students went up, the SPS went down. Thus, the null hypotheses are rejected. However, because the eta square value was exceedingly low, the strength of the relationship between the independent variables and the dependent variable is very weak.

The study does, however, support the research undertaken by others in this field. Natriello and Pallas (1998) showed that schools with larger numbers of minority or poor students obtained poorer results in the high-stakes testing arena. McDermott and McDermott (2002) compared the pass rates of regular education students with those in special education and showed an alarming disparity. Their fear is that students receiving special education will drop out early, that regular teachers will not want them in their classrooms because such students will bring down the averages, and that the tests will become the curriculum.

One of the limitations of this study is that the number of students identified as being special education is low, and as a result, cell means

sometimes become very disparate. Further, although the low eta square value is a problem, the findings of this study reinforce the need for further research on this topic. Future research might be productive in terms of identifying possible suppressor variables such as family size (Bankston & Caldas, 1998).

It is vitally important that further study be undertaken in the area of SPS and accountability, particularly in the area of relationships between SPS and extra-educational variables such as poverty level. So much is at stake for the children, parents, and teachers in Louisiana that more careful analyses are necessary to help lawmakers in their quest for a fair, useful measure of school and teacher effectiveness.

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Table 1

Percentage of Schools in each SPS category

School Rating Code	Description	School Performance Score	Percentage of Schools	Cumulative Percentage of Schools
1	School of Academic Excellence	150 and above	0.1	0.1
2	School of Academic Distinction	125 - 149.9	1.3	1.4
3	School of Academic Achievement	100 - 124.9	15.7	17.1
4	Academically Above State Average	75.9 - 99.9	30.8	47.9
5	Academically Below State Average	30.1 - 75.8	49.9	97.8
6	Academically Unacceptable	30.0 and below	2.2	100.0

Table 2

Analysis of Variance for School Performance Scores

Source	*df*	*F*	η^2	*p*
Main Effects	26	79.22**	.67	.00
Free lunch (A)	2	18.81**	.04	.00
Minority (B)	2	52.01**	.09	.00
Special Education (C)	2	6.97*	.01	.00
Interactions				
A x B	4	2.49*	.01	.04
A x C	4	3.23*	.01	.01
B x C	4	0.82	.00	.52
A x B x C	8	3.48**	.03	.00
Error	1027			

*p < .05. **p < .01.

Table 3

Cell Information with School Performance Score as the Dependent Variable

Free/Reduced Lunch	Minority	Special Education	Mean	Standard Deviation	*N*
1.00	1.00	1.00	103.27	11.24	79
		2.00	101.50	12.21	71
		3.00	100.43	12.07	56
		Total	101.89	11.81	206
	2.00	1.00	112.66	19.99	28
		2.00	95.97	7.81	23
		3.00	89.62	10.71	20
		Total	100.76	17.44	71
	3.00	1.00	77.78	37.92	5
		2.00	50.10	.	1
		3.00	74.95	54.94	2
		Total	73.61	36.67	8
	Total	1.00	104.48	16.96	112
		2.00	99.62	12.54	95
		3.00	97.00	14.38	78
		Total	100.81	15.18	285
2.00	1.00	1.00	87.53	10.96	27
		2.00	89.25	9.29	43
		3.00	88.60	9.57	44
		Total	88.59	9.75	114
	2.00	1.00	83.26	9.81	32
		2.00	83.41	12.01	81
		3.00	79.76	9.89	71
		Total	81.97	10.97	184
	3.00	1.00	70.91	19.14	20
		2.00	76.64	14.61	11

Free/Reduced Lunch	Minority	Special Education	Mean	Standard Deviation	*N*
		3.00	57.74	21.02	14
		Total	68.21	19.83	45
	Total	1.00	81.59	14.50	79
		2.00	84.72	11.94	135
		3.00	80.38	14.44	129
		Total	82.37	13.63	343
3.00	1.00	1.00	101.20	.	1
		2.00	73.40	.	1
		3.00	69.50	.	1
		Total	81.37	17.29	3
	2.00	1.00	78.48	13.16	17
		2.00	72.51	9.13	28
		3.00	69.72	9.96	52
		Total	72.06	10.74	97
	3.00	1.00	52.75	16.15	93
		2.00	55.59	14.30	87
		3.00	56.88	14.10	146
		Total	55.36	14.82	326
	Total	1.00	57.13	18.64	111
		2.00	59.82	15.06	116
		3.00	60.30	14.27	199
		Total	59.34	15.74	426
Total	1.00	1.00	99.28	13.02	107
		2.00	96.68	12.78	115
		3.00	94.96	12.67	101
		Total	97.00	12.91	323
	2.00	1.00	92.89	21.15	77
		2.00	83.28	13.00	132

Free/Reduced Lunch	Minority	Special Education	Mean	Standard Deviation	*N*
		3.00	77.49	12.03	143
		Total	83.03	15.88	352
	3.00	1.00	56.89	19.48	118
		2.00	57.87	15.68	99
		3.00	57.18	15.41	162
		Total	57.27	16.81	379
	Total	1.00	81.09	26.51	302
		2.00	80.46	20.62	346
		3.00	73.73	20.29	406
		Total	78.05	22.59	1054

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